

REMARKS

Claim 21 has been amended to specify that the steps are performed in the sequence as listed.

A. The Rejections

Claims 21-29, 32-34, 36, 37, 39, and 40 stand rejected under 35 U.S.C. §102(b) because the invention is allegedly described in US Patent No. 5,724,110 to Majima (hereafter “Majima”).

Claims 30-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable for obviousness over Majima in view of US Patent No. 5,089,905 to Sasaki et al. (hereafter “Sasaki”). Claims 35 and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable for obviousness over Majima in view of US Patent Application Publication No 20010043307 of Furukawa et al. (hereafter “Furukawa”).

B. Applicants’ Arguments

35 USC §102(b)

Anticipation under 35 U.S.C. §102 requires showing the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984). In this case, the Examiner has failed to establish a prima facie case of anticipation against claim 21 because the Majima Patent fails to teach, or even suggest, each and every element of claim 21. For example, the Majima Patent does not teach or suggest a method having the steps in the sequence, “structuring at least one wall..., joining the second substrate to the first substrate; introducing a sealing material..., and solidifying the sealing material” as does claim 21. According to the present invention, the wall which defines via its inner lateral face the volume for retaining the liquid crystal is structured, for example, on the lower base structure, then the upper base substrate is positioned on the lower base substrate,

and finally, the sealing material is introduced into the gap defined by the outer lateral face of the wall and the two superposed substrates, so that the resulting seal pattern surrounds the wall which defines via its inner lateral face the volume for retaining the liquid crystal.

Applicant respectfully contends that the Majima Patent does not disclose the steps in the specified order. According to Majima, a seal pattern 7 having an injection opening 9 is made of a conventional sealing resin and deposited on the lower base substrate 1a'. Thereafter, a dummy area 20 also made of a conventional sealing resin is deposited inside the seal pattern 7. Both the seal pattern 7 and dummy area 20 are formed before the upper base substrate is positioned and laminated on the lower base substrate 1a'. (See Majima, Figure 15 and the corresponding passage of the specification, col. 9, line 53 through col. 10, line 26.)

The difference between the order of the implementing steps in the present application and those in the Majima Patent leads to the following advantages. According to Majima, the seal pattern 7 and the dummy area 20 are deposited on the lower base substrate before the upper base substrate is positioned and laminated on the lower base substrate. Consequently, as described on page 3, lines 17-31 of the present application's specification, when the upper base substrate is laminated on the lower base substrate, the seal pattern and the dummy area are compressed and tend to spread out via the effect of the pressure exerted, such that the width of the seal pattern and the dummy area can only be controlled with a low precision. Moreover, the inner face of the dummy seal has irregularities in shape so that this dummy seal has to be arranged at a sufficient distance from the electrodes to prevent it from overlapping them.

According to the present invention, once wall 12 has been deposited on bottom substrate 6, top substrate 4 is positioned on bottom substrate 6 and then the sealing material is introduced into the gap 22 defined by the outer lateral face of wall 12 and the two superposed substrates 4 and 6 (see page 8, lines 6-11). Owing to these features, the method according to

the present invention enables the width of the sealing frame, as well as the positioning of the inner lateral face of the wall, to be controlled with great accuracy.

Similarly, the Majima Patent does not anticipate independent claims 36 or 37 because the Majima Patent does not teach each and every element of claims 36 or 37. For example, Majima does not disclose “a front and back substrate maintained at a constant distance from each other...by a sealing joint which defines the volume for retaining the sensitive medium or fluid.” Unlike the present invention, Majima discloses the upper base substrate 1a being positioned and laminated on the lower base substrate 1a’ after the seal pattern 7 and dummy area 20 are formed, thus, the Majima does not have a sealing joint that defines the volume. (See Majima col. 9, lines 60-66.) Furthermore, Majima does not disclose a sealing joint in contact with the outer lateral face of a wall which defines by its inner lateral face the volume for retaining the sensitive material or fluid as does claim 36 or “a sealing joint formed by a filling channel defined by two walls which extend at a distance from each other over the substrate on which said walls are formed...” as does claim 37.

Thus, since the Majima Patent does not teach or suggest each and every element of independent claims 21, 36, or 37, the Majima Patent does not anticipate claim 21 or its dependent claims 22-35 and 38, claim 36 and its dependent claim 39, or claim 37 and its dependent claim 40.

35 USC §103(a)

A prima facie case of obviousness requires showing that the scope and content of the prior art teaches each and every element of the claimed invention, and that the prior art provides some teaching, suggestion or motivation to combine the references to produce the claimed invention. In re Oetiker, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992); In re Vaeck, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

In this case, the Examiner has failed to establish a prima facie case of obviousness against claims 30, 31, 35, or 38 because neither Majima nor Sasaki, alone or in combination, disclose, teach, or suggest all the subject matter in claims 30 and 31 and because neither Majima nor Furukawa, alone or in combination, disclose, teach, or suggest all the subject matter in claims 35 and 38. For example, as discussed above, the Majima Patent does not teach or suggest a method having the steps in the sequence, “structuring at least one wall..., joining the second substrate to the first substrate; introducing a sealing material..., and solidifying the sealing material” as does claim 21, from which claims 30, 31, 35 and 38 depend. Thus, it is impossible to complete the present invention as claimed in claims 30 and 31 as the Examiner contends by modifying Majima’s method of making the walls to use Sasaki’s method of photoetching the photoresist material because the combined invention would not yield the same results as claims 30 and 31 of the present invention. Likewise, it is impossible to complete the present invention as claimed in claims 35 and 38 as the Examiner contends by modifying Majima’s seal material to include Furukawa’s sealing material being thermosetting material because the combined invention would not yield the same results as claims 35 and 38 of the present invention.

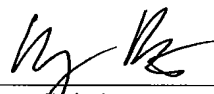
CONCLUSION

In view of the present amendment and for all of the above reasons, Applicant respectfully asserts that claims 21-40 are in condition for allowance and a prompt notice of allowance is earnestly solicited.

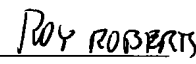
The below-signed attorney for applicant welcomes any questions.

Respectfully submitted,

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